SEQUENCE LISTING

1- porcine nucleotide sequence alpha2 delta-1

GGGGATTGATCTTCGATCGCGAAGATGGCTGCTGGCTGCCTGCTGGCCTTGACTCTGACAC
TTTTCCAATCTTTGCTGATCGGTCCCTCATCGCAGGAGCCGTTCCCGTCGGCCGTCACTAT
CAAGTCATGGGTGGATAAAATGCAAGAAGACCTTGTCACCCTGGCAAAAACAGCAAGTGGA
GTCAATCAGCTTGTCGATATTTATGAAAAATACCAAGATTTGTATACTGTGGAACCAAATA
ATGCACGCCAGCTGGTGGAAATTGCAGCCAGGGATATTGAGAAACTTCTGAGCAACAGATC
TAAAGCCCTGGTGCGCCTAGCTTTGGAAGCAGAGAAGGTTCAAGCAGCCCACCAGTGGAGA
GAGGATTTTGCAAGCAATGAAGTTGTCTACTACAATGCAAAGGATGATCTCGATCCTGAAA
AAAATGACAGTGAGCCAGGCAGCCAGAGGATAAAACCTGTTTTTATTGATGATGCTAATTT
TGGGCGACAGATATCTTATCAGCATGCAGCAGTCCATATTCCCACCGACATCTATGAGGGC
TCAACAATTGTGTTAAATGAACTGAACTGGACAAGTGCCTTAGATGAAGTTTTCAAGAAAA
ATCGAGAGGAAGATCCCTCATTATTGTGGCAGGTGTTTGGCAGTGCCACAGGCCTGGCCCG
GTATTATCCAGCTTCTCCATGGGTTGATAACAGTAGAACTCCAAACAAGATTGACCTTTAT
GATGTACGAAGGAGACCATGGTACATCCAAGGAGCTGCATCTCCTAAAGATATGCTTATTC
TGGTCGACGTGAGTGGAAGTGTTAGTGGTTTGACGCTTAAACTGATCCGAACATCTGTCTC
TGAAATGTTGGAAACCCTCTCAGATGACGATTTTGTGAATGTAGCTTCATTTAACAGCAAT
GCCCAGGATGTAAGCTGTTTTCAACACCTTGTCCAAGCAAATGTAAGAAATAAGAAAGTGC
TGAAAGATGCAGTTAATAATATCACAGCAAAAGGAATCACAGATTACAAGAAGGGCTTTAG
TTTTGCTTTTGAACAACTGCTTAATTATAACGTTTCTAGAGCCAACTGCAATAAGATTATC
ATGTTGTTCACCGATGGAGGAGAAGAGAGAGCTCAGGAGATATTTGCCAAATACAACAAAG
ACAAAAAAGTACGTGTATTCACATTTTCAGTTGGTCAACATAATTATGACAGAGGACCTAT
TCAGTGGATGGCCTGTGAAAATAAAGGTTATTATTATGAAATTCCTTCCATTGGAGCAATC
AGAATCAATACTCAGGAATATTTGGATGTTCTGGGAAGACCAATGGTTTTAGCAGGAGACA
AAGCTAAGCAAGTCCAGTGGACAAACGTGTACCTGGATGCACTGGAACTGGGACTTGTCAT
TACTGGAACTCTTCCGGTCTTCAACATAACCGGCCAAAATGAAAATAAGACGAACTTAAAG
AACCAGCTGATTCTTGGTGTGATGGGAGTTGATGTATCTTTGGAAGATATTAAAAGACTGA
CACCACGTTTTACACTGTGCCCCAATGGCTATTACTTTGCAATTGATCCTAATGGCTATGT
TTTATTACATCCAAATCTTCAGCCAAAGAACCCCAAATCTCAGGAGCCAGTAACCTTGGAT
TTCCTTGATGCAGAATTAGAGAATGATATTAAAGTGGAGATCCGAAATAAAATGATAGATG
GAGAAAGTGGAGAAAAAACATTCAGAACTCTGGTTAAATCTCAAGATGAGAGATATATTGA
CAAAGGAAACAGGACATATACATGGACTCCTGTCAATGGCACAGATTACAGTTTGGCCTTG

GTATTACCAACCTACAGTTTTTACTATATAAAAGCCAAAATAGAAGAGACAATAACTCAGG
CCAGATCAAAAAAGGGCAAAATGAAGGATTCAGAAACACTGAAGCCTGATAATTTTGAAGA
ATCTGGCTATACATTCATAGCACCAAGAGACTACTGCAATGACCTTAAAATATCAGATAAT
AATACCGAATTTCTTTTAAACTTTAATGAGTTTATTGATAGAAAAACTCCAAACAACCCGT
CATGCAACACAGATTTGATTAATAGAGTCTTGCTGGATGCGGGCTTTACAAATGAACTTGT
CCAAAATTACTGGAGTAAGCAGAAAAACATCAAGGGAGTGAAAGCACGGTTTGTTGTAACT
GATGGAGGGATTACCAGAGTTTATCCCAAAGAGGCTGGAGAAAATTGGCAAGAAAACCCAG
AAACATATGAGGACAGCTTCTATAAAAGAAGTCTAGATAACGATAACTATGTTTTCACTGC
TCCCTACTTTAACAAAAGTGGACCTGGTGCTTATGAATCAGGCATCATGGTAAGCAAAGCT
GTAGAAATATACATCCAAGGAAAACTTCTTAAACCTGCAGTTGTTGGAATTAAAATTGATG
TAAATTCCTGGATAGAGAATTTCACCAAAACATCAATCAGGGATCCGTGTGCTGGTCCAGT
TTGTGATTGTAAAAGAAACAGTGATGTAATGGATTGTGTGATTCTAGATGATGGTGGGTTT
CTTTTGATGGCAAATCATGATGATTATACTAACCAGATTGGAAGGTTTTTTGGAGAGATTG
ACCCAAGTTTGATGAGACACCTGGTTAATATATCAGTTTATGCTTTTAACAAATCTTACGA
TTATCAGTCAGTGTGTGAGCCTGGTGCTGCACCAAAACAAGGAGCAGGACATCGCTCAGCA
TATGTGCCATCAATAGCAGACATCTTACACATTGGCTGGTGGGCCACTGCAGCTGCATGGT
CTATTCTACAGCAGTTTCTCTTGAGTTTGACCTTTCCACGACTTCTTGAAGCAGTTGAGAT
GGAAGATGATGACTTTACCGCCTCTCTGTCAAAGCAGAGTTGCATTACTGAACAAACCCAG
TATTTCTTTGATAATGATAGCAAATCCTTCAGTGGGGTCTTGGACTGTGGTAACTGTTCCA
GAATCTTTCACGTTGAAAAACTTATGAACACCAACTTAATATTCATAATGGTTGAGAGCAA
AGGGACTTGTCCTTGTGACACACGATTGCTCATACAAGCTGAGCAGACTTCTGACGGTCCA
GATCCTTGTGATATGGTTAAGCAACCCAGATACCGAAAAGGGCCTGATGTCTGTTTTGATA
ACAATGCCTTGGAGGATTATACCGACTGTGGTGGTGTTTCTGGATTAAATCCCTCCCTGTG
GTCCATCTTCGGAATCCAGTGTGTTTTACTTTGGCTTTTATCTGGCAGCAGACACTACCAG
TTATGACCCTTCTAAAACCAAATCTGCATATTAAACTTCAGACCCTGCCAGAATAGGAGCC
CTCAATTGCATTAAAATAGGGTAAACTGCAGAATCAGCAGAACTCTAGCTGGGCCCATCCC
ATGGCATCAATCTCAGACTCATAAGGCACCCACTGGCTGCATGTCAGGGTGTCAGATCCTG
AAACTTGTGTGAATGCTGCATCATCTATGTATAACATCAGAGCAAAATTCTATACCTATTC
TATTGGAAAATTTGAGAATTTGTTGTTGCATTGTTGGTGATTACATGTAAAAGGGCTCCCC
ACACAGTTGTGTATGAATCACGCAAATTGTCTTGATTTTGACTTGCTGCAATCCTTGTCCT
TTTACCAAGAAAATCTCTAGAGGGAAAAAAAAAGTCTTTTTTTTCCTTCACTAATTCTGCT

ACAAATTATTTCCTGCTTGGAGTAGTTATTATTAAAAAATATATATATAGAGAGAGAGAGA
GAGAATTAACATTGGTGTAATCTGTCAAAATAGAAATAATGGCTTATTTTCTACAAAAAA

2 - porcine nucleotide sequence

ATGGCTGCTGGCTGCCTGCTGGCCTTGACTCTGACACTTTTCCAATCTTTGCTGATCGGTC
CCTCATCGCAGGAGCCGTTCCCGTCGGCCGTCACTATCAAGTCATGGGTGGATAAAATGCA
AGAAGACCTTGTCACCCTGGCAAAAACAGCAAGTGGAGTCAATCAGCTTGTCGATATTTAT
GAAAAATACCAAGATTTGTATACTGTGGAACCAAATAATGCACGCCAGCTGGTGGAAATTG
CAGCCAGGGATATTGAGAAACTTCTGAGCAACAGATCTAAAGCCCTGGTGCGCCTAGCTTT
GGAAGCAGAGAAGGTTCAAGCAGCCCACCAGTGGAGAGAGGATTTTGCAAGCAATGAAGTT
GTCTACTACAATGCAAAGGATGATCTCGATCCTGAAAAAAATGACAGTGAGCCAGGCAGCC
AGAGGATAAAACCTGTTTTTATTGATGATGCTAATTTTGGGCGACAGATATCTTATCAGCA
TGCAGCAGTCCATATTCCCACCGACATCTATGAGGGCTCAACAATTGTGTTAAATGAACTG
AACTGGACAAGTGCCTTAGATGAAGTTTTCAAGAAAAATCGAGAGGAAGATCCCTCATTAT
TGTGGCAGGTGTTTGGCAGTGCCACAGGCCTGGCCCGGTATTATCCAGCTTCTCCATGGGT
TGATAACAGTAGAACTCCAAACAAGATTGACCTTTATGATGTACGAAGGAGACCATGGTAC
ATCCAAGGAGCTGCATCTCCTAAAGATATGCTTATTCTGGTCGACGTGAGTGGAAGTGTTA
GTGGTTTGACGCTTAAACTGATCCGAACATCTGTCTCTGAAATGTTGGAAACCCTCTCAGA
TGACGATTTTGTGAATGTAGCTTCATTTAACAGCAATGCCCAGGATGTAAGCTGTTTTCAA
CACCTTGTCCAAGCAAATGTAAGAAATAAGAAAGTGCTGAAAGATGCAGTTAATAATATCA
CAGCAAAAGGAATCACAGATTACAAGAAGGGCTTTAGTTTTGCTTTTGAACAACTGCTTAA
TTATAACGTTTCTAGAGCCAACTGCAATAAGATTATCATGTTGTTCACCGATGGAGGAGAA
GAGAGAGCTCAGGAGATATTTGCCAAATACAACAAAGACAAAAAAGTACGTGTATTCACAT
TTTCAGTTGGTCAACATAATTATGACAGAGGACCTATTCAGTGGATGGCCTGTGAAAATAA
AGGTTATTATTATGAAATTCCTTCCATTGGAGCAATCAGAATCAATACTCAGGAATATTTG
GATGTTCTGGGAAGACCAATGGTTTTAGCAGGAGACAAAGCTAAGCAAGTCCAGTGGACAA
ACGTGTACCTGGATGCACTGGAACTGGGACTTGTCATTACTGGAACTCTTCCGGTCTTCAA
CATAACCGGCCAAAATGAAAATAAGACGAACTTAAAGAACCAGCTGATTCTTGGTGTGATG
GGAGTTGATGTATCTTTGGAAGATATTAAAAGACTGACACCACGTTTTACACTGTGCCCCA
ATGGCTATTACTTTGCAATTGATCCTAATGGCTATGTTTTATTACATCCAAATCTTCAGCC
AAAGAACCCCAAATCTCAGGAGCCAGTAACCTTGGATTTCCTTGATGCAGAATTAGAGAAT
GATATTAAAGTGGAGATCCGAAATAAAATGATAGATGGAGAAAGTGGAGAAAAAACATTCA

GAACTCTGGTTAAATCTCAAGATGAGAGATATATTGACAAAGGAAACAGGACATATACATG
GACTCCTGTCAATGGCACAGATTACAGTTTGGCCTTGGTATTACCAACCTACAGTTTTTAC
TATATAAAAGCCAAAATAGAAGAGACAATAACTCAGGCCAGATCAAAAAAGGGCAAAATGA
AGGATTCAGAAACACTGAAGCCTGATAATTTTGAAGAATCTGGCTATACATTCATAGCACC
AAGAGACTACTGCAATGACCTTAAAATATCAGATAATAATACCGAATTTCTTTTAAACTTT
AATGAGTTTATTGATAGAAAAACTCCAAACAACCCGTCATGCAACACAGATTTGATTAATA
GAGTCTTGCTGGATGCGGGCTTTACAAATGAACTTGTCCAAAATTACTGGAGTAAGCAGAA
AAACATCAAGGGAGTGAAAGCACGGTTTGTTGTAACTGATGGAGGGATTACCAGAGTTTAT
CCCAAAGAGGCTGGAGAAAATTGGCAAGAAAACCCAGAAACATATGAGGACAGCTTCTATA
AAAGAAGTCTAGATAACGATAACTATGTTTTCACTGCTCCCTACTTTAACAAAAGTGGACC
TGGTGCTTATGAATCAGGCATCATGGTAAGCAAAGCTGTAGAAATATACATCCAAGGAAAA
CTTCTTAAACCTGCAGTTGTTGGAATTAAAATTGATGTAAATTCCTGGATAGAGAATTTCA
CCAAAACATCAATCAGGGATCCGTGTGCTGGTCCAGTTTGTGATTGTAAAAGAAACAGTGA
TGTAATGGATTGTGTGATTCTAGATGATGGTGGGTTTCTTTTGATGGCAAATCATGATGAT
TATACTAACCAGATTGGAAGGTTTTTTGGAGAGATTGACCCAAGTTTGATGAGACACCTGG
TTAATATATCAGTTTATGCTTTTAACAAATCTTACGATTATCAGTCAGTGTGTGAGCCTGG
TGCTGCACCAAAACAAGGAGCAGGACATCGCTCAGCATATGTGCCATCAATAGCAGACATC
TTACACATTGGCTGGTGGGCCACTGCAGCTGCATGGTCTATTCTACAGCAGTTTCTCTTGA
GTTTGACCTTTCCACGACTTCTTGAAGCAGTTGAGATGGAAGATGATGACTTTACCGCCTC
TCTGTCAAAGCAGAGTTGCATTACTGAACAAACCCAGTATTTCTTTGATAATGATAGCAAA
TCCTTCAGTGGGGTCTTGGACTGTGGTAACTGTTCCAGAATCTTTCACGTTGAAAAACTTA
TGAACACCAACTTAATATTCATAATGGTTGAGAGCAAAGGGACTTGTCCTTGTGACACACG
ATTGTGA

3 - porcine nucleotide sequence

ATGGCTGCTGGCTGCCTGCTGGCCTTGACTCTGACACTTTTCCAATCTTTGCTGATCGGTC
CCTCATCGCAGGAGCCGTTCCCGTCGGCCGTCACTATCAAGTCATGGGTGGATAAAATGCA
AGAAGACCTTGTCACCCTGGCAAAAACAGCAAGTGGAGTCAATCAGCTTGTCGATATTTAT
GAAAAATACCAAGATTTGTATACTGTGGAACCAAATAATGCACGCCAGCTGGTGGAAATTG
CAGCCAGGGATATTGAGAAACTTCTGAGCAACAGATCTAAAGCCCTGGTGCGCCTAGCTTT
GGAAGCAGAGAAGGTTCAAGCAGCCCACCAGTGGAGAGAGGATTTTGCAAGCAATGAAGTT
GTCTACTACAATGCAAAGGATGATCTCGATCCTGAAAAAAATGACAGTGAGCCAGGCAGCC

AGAGGATAAAACCTGTTTTTATTGATGATGCTAATTTTGGGCGACAGATATCTTATCAGCA
TGCAGCAGTCCATATTCCCACCGACATCTATGAGGGCTCAACAATTGTGTTAAATGAACTG
AACTGGACAAGTGCCTTAGATGAAGTTTTCAAGAAAAATCGAGAGGAAGATCCCTCATTAT
TGTGGCAGGTGTTTGGCAGTGCCACAGGCCTGGCCCGGTATTATCCAGCTTCTCCATGGGT
TGATAACAGTAGAACTCCAAACAAGATTGACCTTTATGATGTACGAAGGAGACCATGGTAC
ATCCAAGGAGCTGCATCTCCTAAAGATATGCTTATTCTGGTCGACGTGAGTGGAAGTGTTA
GTGGTTTGACGCTTAAACTGATCCGAACATCTGTCTCTGAAATGTTGGAAACCCTCTCAGA
TGACGATTTTGTGAATGTAGCTTCATTTAACAGCAATGCCCAGGATGTAAGCTGTTTTCAA
CACCTTGTCCAAGCAAATGTAAGAAATAAGAAAGTGCTGAAAGATGCAGTTAATAATATCA
CAGCAAAAGGAATCACAGATTACAAGAAGGGCTTTAGTTTTGCTTTTGAACAACTGCTTAA
TTATAACGTTTCTAGAGCCAACTGCAATAAGATTATCATGTTGTTCACCGATGGAGGAGAA
GAGAGAGCTCAGGAGATATTTGCCAAATACAACAAAGACAAAAAAGTACGTGTATTCACAT
TTTCAGTTGGTCAACATAATTATGACAGAGGACCTATTCAGTGGATGGCCTGTGAAAATAA
AGGTTATTATTATGAAATTCCTTCCATTGGAGCAATCAGAATCAATACTCAGGAATATTTG
GATGTTCTGGGAAGACCAATGGTTTTAGCAGGAGACAAAGCTAAGCAAGTCCAGTGGACAA
ACGTGTACCTGGATGCACTGGAACTGGGACTTGTCATTACTGGAACTCTTCCGGTCTTCAA
CATAACCGGCCAAAATGAAAATAAGACGAACTTAAAGAACCAGCTGATTCTTGGTGTGATG
GGAGTTGATGTATCTTTGGAAGATATTAAAAGACTGACACCACGTTTTACACTGTGCCCCA
ATGGCTATTACTTTGCAATTGATCCTAATGGCTATGTTTTATTACATCCAAATCTTCAGCC
AAAGAACCCCAAATCTCAGGAGCCAGTAACCTTGGATTTCCTTGATGCAGAATTAGAGAAT
GATATTAAAGTGGAGATCCGAAATAAAATGATAGATGGAGAAAGTGGAGAAAAAACATTCA
GAACTCTGGTTAAATCTCAAGATGAGAGATATATTGACAAAGGAAACAGGACATATACATG
GACTCCTGTCAATGGCACAGATTACAGTTTGGCCTTGGTATTACCAACCTACAGTTTTTAC
TATATAAAAGCCAAAATAGAAGAGACAATAACTCAGGCCAGATCAAAAAAGGGCAAAATGA
AGGATTCAGAAACACTGAAGCCTGATAATTTTGAAGAATCTGGCTATACATTCATAGCACC
AAGAGACTACTGCAATGACCTTAAAATATCAGATAATAATACCGAATTTCTTTTAAACTTT
AATGAGTTTATTGATAGAAAAACTCCAAACAACCCGTCATGCAACACAGATTTGATTAATA
GAGTCTTGCTGGATGCGGGCTTTACAAATGAACTTGTCCAAAATTACTGGAGTAAGCAGAA
AAACATCAAGGGAGTGAAAGCACGGTTTGTTGTAACTGATGGAGGGATTACCAGAGTTTAT
CCCAAAGAGGCTGGAGAAAATTGGCAAGAAAACCCAGAAACATATGAGGACAGCTTCTATA
AAAGAAGTCTAGATAACGATAACTATGTTTTCACTGCTCCCTACTTTAACAAAAGTGGACC
TGGTGCTTATGAATCAGGCATCATGGTAAGCAAAGCTGTAGAAATATACATCCAAGGAAAA

CTTCTTAAACCTGCAGTTGTTGGAATTAAAATTGATGTAAATTCCTGGATAGAGAATTTCA
CCAAAACATCAATCAGGGATCCGTGTGCTGGTCCAGTTTGTGATTGTAAAAGAAACAGTGA
TGTAATGGATTGTGTGATTCTAGATGATGGTGGGTTTCTTTTGATGGCAAATCATGATGAT
TATACTAACCAGATTGGAAGGTTTTTTGGAGAGATTGACCCAAGTTTGATGAGACACCTGG
TTAATATATCAGTTTATGCTTTTAACAAATCTTACGATTATCAGTCAGTGTGTGAGCCTGG
TGCTGCACCAAAACAAGGAGCAGGACATCGCTCAGCATATGTGCCATCAATAGCAGACATC
TTACACATTGGCTGGTGGGCCACTGCAGCTGCATGGTCTATTCTACAGCAGTTTCTCTTGA
GTTTGACCTTTCCACGACTTCTTGAAGCAGTTGAGATGGAAGATGATGACTTTACCGCCTC
TCTGTCAAAGCAGAGTTGCATTACTGAACAAACCCAGTATTTCTTTGATAATGATAGCAAA
TCCTTCAGTGGGGTCTTGGACTGTGGTAACTGTTCCAGAATCTTTCACGTTGAAAAACTTA
TGAACACCAACTTAATATTCATAATGGTTGAGAGCAAAGGGACTTGTCCTTGTGACACACG
ATTGCTCATACAAGCTGAGCAGACTTCTGACGGTCCAGATCCTTGTGATATGGTTAAGTGA

4 - porcine nucleotide sequence

ATGGCTGCTGGCTGCCTGCTGGCCTTGACTCTGACACTTTTCCAATCTTTGCTGATCGGTC
CCTCATCGCAGGAGCCGTTCCCGTCGGCCGTCACTATCAAGTCATGGGTGGATAAAATGCA
AGAAGACCTTGTCACCCTGGCAAAAACAGCAAGTGGAGTCAATCAGCTTGTCGATATTTAT
GAAAAATACCAAGATTTGTATACTGTGGAACCAAATAATGCACGCCAGCTGGTGGAAATTG
CAGCCAGGGATATTGAGAAACTTCTGAGCAACAGATCTAAAGCCCTGGTGCGCCTAGCTTT
GGAAGCAGAGAAGGTTCAAGCAGCCCACCAGTGGAGAGAGGATTTTGCAAGCAATGAAGTT
GTCTACTACAATGCAAAGGATGATCTCGATCCTGAAAAAAATGACAGTGAGCCAGGCAGCC
AGAGGATAAAACCTGTTTTTATTGATGATGCTAATTTTGGGCGACAGATATCTTATCAGCA
TGCAGCAGTCCATATTCCCACCGACATCTATGAGGGCTCAACAATTGTGTTAAATGAACTG
AACTGGACAAGTGCCTTAGATGAAGTTTTCAAGAAAAATCGAGAGGAAGATCCCTCATTAT
TGTGGCAGGTGTTTGGCAGTGCCACAGGCCTGGCCCGGTATTATCCAGCTTCTCCATGGGT
TGATAACAGTAGAACTCCAAACAAGATTGACCTTTATGATGTACGAAGGAGACCATGGTAC
ATCCAAGGAGCTGCATCTCCTAAAGATATGCTTATTCTGGTCGACGTGAGTGGAAGTGTTA
GTGGTTTGACGCTTAAACTGATCCGAACATCTGTCTCTGAAATGTTGGAAACCCTCTCAGA
TGACGATTTTGTGAATGTAGCTTCATTTAACAGCAATGCCCAGGATGTAAGCTGTTTTCAA
CACCTTGTCCAAGCAAATGTAAGAAATAAGAAAGTGCTGAAAGATGCAGTTAATAATATCA
CAGCAAAAGGAATCACAGATTACAAGAAGGGCTTTAGTTTTGCTTTTGAACAACTGCTTAA
TTATAACGTTTCTAGAGCCAACTGCAATAAGATTATCATGTTGTTCACCGATGGAGGAGAA

GAGAGAGCTCAGGAGATATTTGCCAAATACAACAAAGACAAAAAAGTACGTGTATTCACAT
TTTCAGTTGGTCAACATAATTATGACAGAGGACCTATTCAGTGGATGGCCTGTGAAAATAA
AGGTTATTATTATGAAATTCCTTCCATTGGAGCAATCAGAATCAATACTCAGGAATATTTG
GATGTTCTGGGAAGACCAATGGTTTTAGCAGGAGACAAAGCTAAGCAAGTCCAGTGGACAA
ACGTGTACCTGGATGCACTGGAACTGGGACTTGTCATTACTGGAACTCTTCCGGTCTTCAA
CATAACCGGCCAAAATGAAAATAAGACGAACTTAAAGAACCAGCTGATTCTTGGTGTGATG
GGAGTTGATGTATCTTTGGAAGATATTAAAAGACTGACACCACGTTTTACACTGTGCCCCA
ATGGCTATTACTTTGCAATTGATCCTAATGGCTATGTTTTATTACATCCAAATCTTCAGCC
AAAGAACCCCAAATCTCAGGAGCCAGTAACCTTGGATTTCCTTGATGCAGAATTAGAGAAT
GATATTAAAGTGGAGATCCGAAATAAAATGATAGATGGAGAAAGTGGAGAAAAAACATTCA
GAACTCTGGTTAAATCTCAAGATGAGAGATATATTGACAAAGGAAACAGGACATATACATG
GACTCCTGTCAATGGCACAGATTACAGTTTGGCCTTGGTATTACCAACCTACAGTTTTTAC
TATATAAAAGCCAAAATAGAAGAGACAATAACTCAGGCCAGATCAAAAAAGGGCAAAATGA
AGGATTCAGAAACACTGAAGCCTGATAATTTTGAAGAATCTGGCTATACATTCATAGCACC
AAGAGACTACTGCAATGACCTTAAAATATCAGATAATAATACCGAATTTCTTTTAAACTTT
AATGAGTTTATTGATAGAAAAACTCCAAACAACCCGTCATGCAACACAGATTTGATTAATA
GAGTCTTGCTGGATGCGGGCTTTACAAATGAACTTGTCCAAAATTACTGGAGTAAGCAGAA
AAACATCAAGGGAGTGAAAGCACGGTTTGTTGTAACTGATGGAGGGATTACCAGAGTTTAT
CCCAAAGAGGCTGGAGAAAATTGGCAAGAAAACCCAGAAACATATGAGGACAGCTTCTATA
AAAGAAGTCTAGATAACGATAACTATGTTTTCACTGCTCCCTACTTTAACAAAAGTGGACC
TGGTGCTTATGAATCAGGCATCATGGTAAGCAAAGCTGTAGAAATATACATCCAAGGAAAA
CTTCTTAAACCTGCAGTTGTTGGAATTAAAATTGATGTAAATTCCTGGATAGAGAATTTCA
CCAAAACATCAATCAGGGATCCGTGTGCTGGTCCAGTTTGTGATTGTAAAAGAAACAGTGA
TGTAATGGATTGTGTGATTCTAGATGATGGTGGGTTTCTTTTGATGGCAAATCATGATGAT
TATACTAACCAGATTGGAAGGTTTTTTGGAGAGATTGACCCAAGTTTGATGAGACACCTGG
TTAATATATCAGTTTATGCTTTTAACAAATCTTACGATTATCAGTCAGTGTGTGAGCCTGG
TGCTGCACCAAAACAAGGAGCAGGACATCGCTCAGCATATGTGCCATCAATAGCAGACATC
TTACACATTGGCTGGTGGGCCACTGCAGCTGCATGGTCTATTCTACAGCAGTTTCTCTTGA
GTTTGACCTTTCCACGACTTCTTGAAGCAGTTGAGATGGAAGATGATGACTTTACCGCCTC
TCTGTCAAAGCAGAGTTGCATTACTGAACAAACCCAGTATTTCTTTGATAATGATAGCAAA
TCCTTCAGTGGGGTCTTGGACTGTGGTAACTGTTCCAGAATCTTTCACGTTGAAAAACTTA
TGAACACCAACTTAATATTCATAATGGTTGAGAGCAAAGGGACTTGTCCTTGTGACACACG

ATTGCTCATACAAGCTGAGCAGACTTCTGACGGTCCAGATCCTTGTGATATGGTTAAGCAA
CCCAGATACCGAAAAGGGCCTGATGTCTGTTTTGATAACAATGCCTTGGAGGATTATACCG
ACTGTGGTGGTGTTTCTTGA

5 - porcine amino acid sequence alpha2 delta-1

MAAGCLLALTLTLFQSLLIGPSSQEPFPSAVTIKSWVDKMQEDLVTLAKTASGVNQLVDIY
EKYQDLYTVEPNNARQLVEIAARDIEKLLSNRSKALVRLALEAEKVQAAHQWREDFASNEV
VYYNAKDDLDPEKNDSEPGSQRIKPVFIDDANFGRQISYQHAAVHIPTDIYEGSTIVLNEL
NWTSALDEVFKKNREEDPSLLWQVFGSATGLARYYPASPWVDNSRTPNKIDLYDVRRRPWY
IQGAASPKDMLILVDVSGSVSGLTLKLIRTSVSEMLETLSDDDFVNVASFNSNAQDVSCFQ
HLVQANVRNKKVLKDAVNNITAKGITDYKKGFSFAFEQLLNYNVSRANCNKIIMLFTDGGE
ERAQEIFAKYNKDKKVRVFTFSVGQHNYDRGPIQWMACENKGYYYEIPSIGAIRINTQEYL
DVLGRPMVLAGDKAKQVQWTNVYLDALELGLVITGTLPVFNITGQNENKTNLKNQLILGVM
GVDVSLEDIKRLTPRFTLCPNGYYFAIDPNGYVLLHPNLQPKNPKSQEPVTLDFLDAELEN
DIKVEIRNKMIDGESGEKTFRTLVKSQDERYIDKGNRTYTWTPVNGTDYSLALVLPTYSFY
YIKAKIEETITQARSKKGKMKDSETLKPDNFEESGYTFIAPRDYCNDLKISDNNTEFLLNF
NEFIDRKTPNNPSCNTDLINRVLLDAGFTNELVQNYWSKQKNIKGVKARFVVTDGGITRVY
PKEAGENWQENPETYEDSFYKRSLDNDNYVFTAPYFNKSGPGAYESGIMVSKAVEIYIQGK
LLKPAVVGIKIDVNSWIENFTKTSIRDPCAGPVCDCKRNSDVMDCVILDDGGFLLMANHDD
YTNQIGRFFGEIDPSLMRHLVNISVYAFNKSYDYQSVCEPGAAPKQGAGHRSAYVPSIADI
LHIGWWATAAAWSILQQFLLSLTFPRLLEAVEMEDDDFTASLSKQSCITEQTQYFFDNDSK
SFSGVLDCGNCSRIFHVEKLMNTNLIFIMVESKGTCPCDTRLLIQAEQTSDGPDPCDMVKQ
PRYRKGPDVCFDNNALEDYTDCGGVSGLNPSLWSIFGIQCVLLWLLSGSRHYQL

6 - porcine amino acid sequence

MAAGCLLALTLTLFQSLLIGPSSQEPFPSAVTIKSWVDKMQEDLVTLAKTASGVNQLVDIY
EKYQDLYTVEPNNARQLVEIAARDIEKLLSNRSKALVRLALEAEKVQAAHQWREDFASNEV
VYYNAKDDLDPEKNDSEPGSQRIKPVFIDDANFGRQISYQHAAVHIPTDIYEGSTIVLNEL
NWTSALDEVFKKNREEDPSLLWQVFGSATGLARYYPASPWVDNSRTPNKIDLYDVRRRPWY
IQGAASPKDMLILVDVSGSVSGLTLKLIRTSVSEMLETLSDDDFVNVASFNSNAQDVSCFQ
HLVQANVRNKKVLKDAVNNITAKGITDYKKGFSFAFEQLLNYNVSRANCNKIIMLFTDGGE

ERAQEIFAKYNKDKKVRVFTFSVGQHNYDRGPIQWMACENKGYYYEIPSIGAIRINTQEYL
DVLGRPMVLAGDKAKQVQWTNVYLDALELGLVITGTLPVFNITGQNENKTNLKNQLILGVM
GVDVSLEDIKRLTPRFTLCPNGYYFAIDPNGYVLLHPNLQPKNPKSQEPVTLDFLDAELEN
DIKVEIRNKMIDGESGEKTFRTLVKSQDERYIDKGNRTYTWTPVNGTDYSLALVLPTYSFY
YIKAKIEETITQARSKKGKMKDSETLKPDNFEESGYTFIAPRDYCNDLKISDNNTEFLLNF
NEFIDRKTPNNPSCNTDLINRVLLDAGFTNELVQNYWSKQKNIKGVKARFVVTDGGITRVY
PKEAGENWQENPETYEDSFYKRSLDNDNYVFTAPYFNKSGPGAYESGIMVSKAVEIYIQGK
LLKPAVVGIKIDVNSWIENFTKTSIRDPCAGPVCDCKRNSDVMDCVILDDGGFLLMANHDD
YTNQIGRFFGEIDPSLMRHLVNISVYAFNKSYDYQSVCEPGAAPKQGAGHRSAYVPSIADI
LHIGWWATAAAWSILQQFLLSLTFPRLLEAVEMEDDDFTASLSKQSCITEQTQYFFDNDSK
SFSGVLDCGNCSRIFHVEKLMNTNLIFIMVESKGTCPCDTRL

7 - porcine amino acid sequence

MAAGCLLALTLTLFQSLLIGPSSQEPFPSAVTIKSWVDKMQEDLVTLAKTASGVNQLVDIY
EKYQDLYTVEPNNARQLVEIAARDIEKLLSNRSKALVRLALEAEKVQAAHQWREDFASNEV
VYYNAKDDLDPEKNDSEPGSQRIKPVFIDDANFGRQISYQHAAVHIPTDIYEGSTIVLNEL
NWTSALDEVFKKNREEDPSLLWQVFGSATGLARYYPASPWVDNSRTPNKIDLYDVRRRPWY
IQGAASPKDMLILVDVSGSVSGLTLKLIRTSVSEMLETLSDDDFVNVASFNSNAQDVSCFQ
HLVQANVRNKKVLKDAVNNITAKGITDYKKGFSFAFEQLLNYNVSRANCNKIIMLFTDGGE
ERAQEIFAKYNKDKKVRVFTFSVGQHNYDRGPIQWMACENKGYYYEIPSIGAIRINTQEYL
DVLGRPMVLAGDKAKQVQWTNVYLDALELGLVITGTLPVFNITGQNENKTNLKNQLILGVM
GVDVSLEDIKRLTPRFTLCPNGYYFAIDPNGYVLLHPNLQPKNPKSQEPVTLDFLDAELEN
DIKVEIRNKMIDGESGEKTFRTLVKSQDERYIDKGNRTYTWTPVNGTDYSLALVLPTYSFY
YIKAKIEETITQARSKKGKMKDSETLKPDNFEESGYTFIAPRDYCNDLKISDNNTEFLLNF
NEFIDRKTPNNPSCNTDLINRVLLDAGFTNELVQNYWSKQKNIKGVKARFVVTDGGITRVY
PKEAGENWQENPETYEDSFYKRSLDNDNYVFTAPYFNKSGPGAYESGIMVSKAVEIYIQGK
LLKPAVVGIKIDVNSWIENFTKTSIRDPCAGPVCDCKRNSDVMDCVILDDGGFLLMANHDD
YTNQIGRFFGEIDPSLMRHLVNISVYAFNKSYDYQSVCEPGAAPKQGAGHRSAYVPSIADI
LHIGWWATAAAWSILQQFLLSLTFPRLLEAVEMEDDDFTASLSKQSCITEQTQYFFDNDSK
SFSGVLDCGNCSRIFHVEKLMNTNLIFIMVESKGTCPCDTRLLIQAEQTSDGPDPCDMVK

8 - porcine amino acid sequence

MAAGCLLALTLTLFQSLLIGPSSQEPFPSAVTIKSWVDKMQEDLVTLAKTASGVNQLVDIY
EKYQDLYTVEPNNARQLVEIAARDIEKLLSNRSKALVRLALEAEKVQAAHQWREDFASNEV
VYYNAKDDLDPEKNDSEPGSQRIKPVFIDDANFGRQISYQHAAVHIPTDIYEGSTIVLNEL
NWTSALDEVFKKNREEDPSLLWQVFGSATGLARYYPASPWVDNSRTPNKIDLYDVRRRPWY
IQGAASPKDMLILVDVSGSVSGLTLKLIRTSVSEMLETLSDDDFVNVASFNSNAQDVSCFQ
HLVQANVRNKKVLKDAVNNITAKGITDYKKGFSFAFEQLLNYNVSRANCNKIIMLFTDGGE
ERAQEIFAKYNKDKKVRVFTFSVGQHNYDRGPIQWMACENKGYYYEIPSIGAIRINTQEYL
DVLGRPMVLAGDKAKQVQWTNVYLDALELGLVITGTLPVFNITGQNENKTNLKNQLILGVM
GVDVSLEDIKRLTPRFTLCPNGYYFAIDPNGYVLLHPNLQPKNPKSQEPVTLDFLDAELEN
DIKVEIRNKMIDGESGEKTFRTLVKSQDERYIDKGNRTYTWTPVNGTDYSLALVLPTYSFY
YIKAKIEETITQARSKKGKMKDSETLKPDNFEESGYTFIAPRDYCNDLKISDNNTEFLLNF
NEFIDRKTPNNPSCNTDLINRVLLDAGFTNELVQNYWSKQKNIKGVKARFVVTDGGITRVY
PKEAGENWQENPETYEDSFYKRSLDNDNYVFTAPYFNKSGPGAYESGIMVSKAVEIYIQGK
LLKPAVVGIKIDVNSWIENFTKTSIRDPCAGPVCDCKRNSDVMDCVILDDGGFLLMANHDD
YTNQIGRFFGEIDPSLMRHLVNISVYAFNKSYDYQSVCEPGAAPKQGAGHRSAYVPSIADI
LHIGWWATAAAWSILQQFLLSLTFPRLLEAVEMEDDDFTASLSKQSCITEQTQYFFDNDSK
SFSGVLDCGNCSRIFHVEKLMNTNLIFIMVESKGTCPCDTRLLIQAEQTSDGPDPCDMVKQ
PRYRKGPDVCFDNNALEDYTDCGGVS

9 - porcine amino acid sequence

MAAGCLLALTLTLFQSLLIGPSSQEPFPSAVTIKSWVDKMQEDLVTLAKTASGVNQLVDIY
EKYQDLYTVEPNNARQLVEIAARDIEKLLSNRSKALVRLALEAEKVQAAHQWREDFASNEV
VYYNAKDDLDPEKNDSEPGSQRIKPVFIDDANFGRQISYQHAAVHIPTDIYEGSTIVLNEL
NWTSALDEVFKKNREEDPSLLWQVFGSATGLARYYPASPWVDNSRTPNKIDLYDVRRRPWY
IQGAASPKDMLILVDVSGSVSGLTLKLIRTSVSEMLETLSDDDFVNVASFNSNAQDVSCFQ
HLVQANVRNKKVLKDAVNNITAKGITDYKKGFSFAFEQLLNYNVSRANCNKIIMLFTDGGE
ERAQEIFAKYNKDKKVRVFTFSVGQHNYDRGPIQWMACENKGYYYEIPSIGAIRINTQEYL
DVLGRPMVLAGDKAKQVQWTNVYLDALELGLVITGTLPVFNITGQNENKTNLKNQLILGVM
GVDVSLEDIKRLTPRFTLCPNGYYFAIDPNGYVLLHPNLQPKNPKSQEPVTLDFLDAELEN
DIKVEIRNKMIDGESGEKTFRTLVKSQDERYIDKGNRTYTWTPVNGTDYSLALVLPTYSFY
YIKAKIEETITQARSKKGKMKDSETLKPDNFEESGYTFIAPRDYCNDLKISDNNTEFLLNF

NEFIDRKTPNNPSCNTDLINRVLLDAGFTNELVQNYWSKQKNIKGVKARFVVTDGGITRVY
PKEAGENWQENPETYEDSFYKRSLDNDNYVFTAPYFNKSGPGAYESGIMVSKAVEIYIQGK
LLKPAVVGIKIDVNSWIENFTKTSIRDPCAGPVCDCKRNSDVMDCVILDDGGFLLMANHDD
YTNQIGRFFGEIDPSLMRHLVNISVYAFNKSYDYQSVCEPGAAPKQGAGHRSAYVPSIADI
LHIGWWATAAAWSILQQFLLSLTFPRLLEAVEMEDDDFTASLSKQSCITEQTQYFFDNDSK
SFSGVLDCGNCSRIFHVEKLMNTNLIFIMVESKGTCPCDTRLLIQAEQTSDGPDPCDMVKQ
PRYRKGPDVCFDNNALEDYTDCGGVSHHHHHH

10 - human nucleotide sequence

ATGGCTGCTGGCTGCCTGCTGGCCTTGACTCTGACACTTTTCCAATCTTTGCTCATCGGCC
CCTCGTCGGAGGAGCCGTTCCCTTCGGCCGTCACTATCAAATCATGGGTGGATAAGATGCA
AGAAGACCTTGTCACACTGGCAAAAACAGCAAGTGGAGTCAATCAGCTTGTTGATATTTAT
GAGAAATATCAAGATTTGTATACTGTGGAACCAAATAATGCACGCCAGCTGGTAGAAATTG
CAGCCAGGGATATTGAGAAACTTCTGAGCAACAGATCTAAAGCCCTGGTGAGCCTGGCATT
GGAAGCGGAGAAAGTTCAAGCAGCTCACCAGTGGAGAGAAGATTTTGCAAGCAATGAAGTT
GTCTACTACAATGCAAAGGATGATCTCGATCCTGAGAAAAATGACAGTGAGCCAGGCAGCC
AGAGGATAAAACCTGTTTTCATTGAAGATGCTAATTTTGGACGACAAATATCTTATCAGCA
CGCAGCAGTCCATATTCCTACTGACATCTATGAGGGCTCAACAATTGTGTTAAATGAACTC
AACTGGACAAGTGCCTTAGATGAAGTTTTCAAAAAGAATCGCGAGGAAGACCCTTCATTAT
TGTGGCAGGTTTTTGGCAGTGCCACTGGCCTAGCTCGATATTATCCAGCTTCACCATGGGT
TGATAATAGTAGAACTCCAAATAAGATTGACCTTTATGATGTACGCAGAAGACCATGGTAC
ATCCAAGGAGCTGCATCTCCTAAAGACATGCTTATTCTGGTGGATGTGAGTGGAAGTGTTA
GTGGATTGACACTTAAACTGATCCGAACATCTGTCTCCGAAATGTTAGAAACCCTCTCAGA
TGATGATTTCGTGAATGTAGCTTCATTTAACAGCAATGCTCAGGATGTAAGCTGTTTTCAG
CACCTTGTCCAAGCAAATGTAAGAAATAAAAAAGTGTTGAAAGACGCGGTGAATAATATCA
CAGCCAAAGGAATTACAGATTATAAGAAGGGCTTTAGTTTTGCTTTTGAACAGCTGCTTAA
TTATAATGTTTCCAGAGCAAACTGCAATAAGATTATTATGCTATTCACGGATGGAGGAGAA
GAGAGAGCCCAGGAGATATTTAACAAATACAATAAAGATAAAAAAGTACGTGTATTCAGGT
TTTCAGTTGGTCAACACAATTATGAGAGAGGACCTATTCAGTGGATGGCCTGTGAAAACAA
AGGTTATTATTATGAAATTCCTTCCATTGGTGCAATAAGAATCAATACTCAGGAATATTTG
GATGTTTTGGGAAGACCAATGGTTTTAGCAGGAGACAAAGCTAAGCAAGTCCAATGGACAA
ATGTGTACCTGGATGCATTGGAACTGGGACTTGTCATTACTGGAACTCTTCCGGTCTTCAA

CATAACCGGCCAATTTGAAAATAAGACAAACTTAAAGAACCAGCTGATTCTTGGTGTGATG
GGAGTAGATGTGTCTTTGGAAGATATTAAAAGACTGACACCACGTTTTACACTGTGCCCCA
ATGGGTATTACTTTGCAATCGATCCTAATGGTTATGTTTTATTACATCCAAATCTTCAGCC
AAAGAACCCCAAATCTCAGGAGCCAGTAACATTGGATTTCCTTGATGCAGAGTTAGAGAAT
GATATTAAAGTGGAGATTCGAAATAAGATGATTGATGGGGAAAGTGGAGAAAAAACATTCA
GAACTCTGGTTAAATCTCAAGATGAGAGATATATTGACAAAGGAAACAGGACATACACATG
GACACCTGTCAATGGCACAGATTACAGTTTGGCCTTGGTATTACCAACCTACAGTTTTTAC
TATATAAAAGCCAAACTAGAAGAGACAATAACTCAGGCCAGATCAAAAAAGGGCAAAATGA
AGGATTCGGAAACCCTGAAGCCAGATAATTTTGAAGAATCTGGCTATACATTCATAGCACC
AAGAGATTACTGCAATGACCTGAAAATATCGGATAATAACACTGAATTTCTTTTAAATTTC
AACGAGTTTATTGATAGAAAAACTCCAAACAACCCATCATGTAACGCGGATTTGATTAATA
GAGTCTTGCTTGATGCAGGCTTTACAAATGAACTTGTCCAAAATTACTGGAGTAAGCAGAA
AAATATCAAGGGAGTGAAAGCACGATTTGTTGTGACTGATGGTGGGATTACCAGAGTTTAT
CCCAAAGAGGCTGGAGAAAATTGGCAAGAAAACCCAGAGACATATGAGGACAGCTTCTATA
AAAGGAGCCTAGATAATGATAACTATGTTTTCACTGCTCCCTACTTTAACAAAAGTGGACC
TGGTGCCTATGAATCGGGCATTATGGTAAGCAAAGCTGTAGAAATATATATTCAAGGGAAA
CTTCTTAAACCTGCAGTTGTTGGAATTAAAATTGATGTAAATTCCTGGATAGAGAATTTCA
CCAAAACCTCAATCAGAGATCCGTGTGCTGGTCCAGTTTGTGACTGCAAAAGAAACAGTGA
CGTAATGGATTGTGTGATTCTGGATGATGGTGGGTTTCTTCTGATGGCAAATCATGATGAT
TATACTAATCAGATTGGAAGATTTTTTGGAGAGATTGATCCCAGCTTGATGAGACACCTGG
TTAATATATCAGTTTATGCTTTTAACAAATCTTATGATTATCAGTCAGTATGTGAGCCCGG
TGCTGCACCAAAACAAGGAGCAGGACATCGCTCAGCATATGTGCCATCAGTAGCAGACATA
TTACAAATTGGCTGGTGGGCCACTGCTGCTGCCTGGTCTATTCTACAGCAGTTTCTCTTGA
GTTTGACCTTTCCACGACTCCTTGAGGCAGTTGAGATGGAGGATGATGACTTCACGGCCTC
CCTGTCCAAGCAGAGCTGCATTACTGAACAAACCCAGTATTTCTTCGATAACGACAGTAAA
TCATTCAGTGGTGTATTAGACTGTGGAAACTGTTCCAGAATCTTTCATGGAGAAAAGCTTA
TGAACACCAACTTAATATTCATAATGGTTGAGAGCAAAGGGACATGTCCATGTGACACACG
ACTGC

11 - human nucleotide sequence

ATGGCTGCTGGCTGCCTGCTGGCCTTGACTCTGACACTTTTCCAATCTTTGCTCATCGGCC
CCTCGTCGGAGGAGCCGTTCCCTTCGGCCGTCACTATCAAATCATGGGTGGATAAGATGCA

AGAAGACCTTGTCACACTGGCAAAAACAGCAAGTGGAGTCAATCAGCTTGTTGATATTTAT
GAGAAATATCAAGATTTGTATACTGTGGAACCAAATAATGCACGCCAGCTGGTAGAAATTG
CAGCCAGGGATATTGAGAAACTTCTGAGCAACAGATCTAAAGCCCTGGTGAGCCTGGCATT
GGAAGCGGAGAAAGTTCAAGCAGCTCACCAGTGGAGAGAAGATTTTGCAAGCAATGAAGTT
GTCTACTACAATGCAAAGGATGATCTCGATCCTGAGAAAAATGACAGTGAGCCAGGCAGCC
AGAGGATAAAACCTGTTTTCATTGAAGATGCTAATTTTGGACGACAAATATCTTATCAGCA
CGCAGCAGTCCATATTCCTACTGACATCTATGAGGGCTCAACAATTGTGTTAAATGAACTC
AACTGGACAAGTGCCTTAGATGAAGTTTTCAAAAAGAATCGCGAGGAAGACCCTTCATTAT
TGTGGCAGGTTTTTGGCAGTGCCACTGGCCTAGCTCGATATTATCCAGCTTCACCATGGGT
TGATAATAGTAGAACTCCAAATAAGATTGACCTTTATGATGTACGCAGAAGACCATGGTAC
ATCCAAGGAGCTGCATCTCCTAAAGACATGCTTATTCTGGTGGATGTGAGTGGAAGTGTTA
GTGGATTGACACTTAAACTGATCCGAACATCTGTCTCCGAAATGTTAGAAACCCTCTCAGA
TGATGATTTCGTGAATGTAGCTTCATTTAACAGCAATGCTCAGGATGTAAGCTGTTTTCAG
CACCTTGTCCAAGCAAATGTAAGAAATAAAAAAGTGTTGAAAGACGCGGTGAATAATATCA
CAGCCAAAGGAATTACAGATTATAAGAAGGGCTTTAGTTTTGCTTTTGAACAGCTGCTTAA
TTATAATGTTTCCAGAGCAAACTGCAATAAGATTATTATGCTATTCACGGATGGAGGAGAA
GAGAGAGCCCAGGAGATATTTAACAAATACAATAAAGATAAAAAAGTACGTGTATTCAGGT
TTTCAGTTGGTCAACACAATTATGAGAGAGGACCTATTCAGTGGATGGCCTGTGAAAACAA
AGGTTATTATTATGAAATTCCTTCCATTGGTGCAATAAGAATCAATACTCAGGAATATTTG
GATGTTTTGGGAAGACCAATGGTTTTAGCAGGAGACAAAGCTAAGCAAGTCCAATGGACAA
ATGTGTACCTGGATGCATTGGAACTGGGACTTGTCATTACTGGAACTCTTCCGGTCTTCAA
CATAACCGGCCAATTTGAAAATAAGACAAACTTAAAGAACCAGCTGATTCTTGGTGTGATG
GGAGTAGATGTGTCTTTGGAAGATATTAAAAGACTGACACCACGTTTTACACTGTGCCCCA
ATGGGTATTACTTTGCAATCGATCCTAATGGTTATGTTTTATTACATCCAAATCTTCAGCC
AAAGAACCCCAAATCTCAGGAGCCAGTAACATTGGATTTCCTTGATGCAGAGTTAGAGAAT
GATATTAAAGTGGAGATTCGAAATAAGATGATTGATGGGGAAAGTGGAGAAAAAACATTCA
GAACTCTGGTTAAATCTCAAGATGAGAGATATATTGACAAAGGAAACAGGACATACACATG
GACACCTGTCAATGGCACAGATTACAGTTTGGCCTTGGTATTACCAACCTACAGTTTTTAC
TATATAAAAGCCAAACTAGAAGAGACAATAACTCAGGCCAGATCAAAAAAGGGCAAAATGA
AGGATTCGGAAACCCTGAAGCCAGATAATTTTGAAGAATCTGGCTATACATTCATAGCACC
AAGAGATTACTGCAATGACCTGAAAATATCGGATAATAACACTGAATTTCTTTTAAATTTC
AACGAGTTTATTGATAGAAAAACTCCAAACAACCCATCATGTAACGCGGATTTGATTAATA

GAGTCTTGCTTGATGCAGGCTTTACAAATGAACTTGTCCAAAATTACTGGAGTAAGCAGAA
AAATATCAAGGGAGTGAAAGCACGATTTGTTGTGACTGATGGTGGGATTACCAGAGTTTAT
CCCAAAGAGGCTGGAGAAAATTGGCAAGAAAACCCAGAGACATATGAGGACAGCTTCTATA
AAAGGAGCCTAGATAATGATAACTATGTTTTCACTGCTCCCTACTTTAACAAAAGTGGACC
TGGTGCCTATGAATCGGGCATTATGGTAAGCAAAGCTGTAGAAATATATATTCAAGGGAAA
CTTCTTAAACCTGCAGTTGTTGGAATTAAAATTGATGTAAATTCCTGGATAGAGAATTTCA
CCAAAACCTCAATCAGAGATCCGTGTGCTGGTCCAGTTTGTGACTGCAAAAGAAACAGTGA
CGTAATGGATTGTGTGATTCTGGATGATGGTGGGTTTCTTCTGATGGCAAATCATGATGAT
TATACTAATCAGATTGGAAGATTTTTTGGAGAGATTGATCCCAGCTTGATGAGACACCTGG
TTAATATATCAGTTTATGCTTTTAACAAATCTTATGATTATCAGTCAGTATGTGAGCCCGG
TGCTGCACCAAAACAAGGAGCAGGACATCGCTCAGCATATGTGCCATCAGTAGCAGACATA
TTACAAATTGGCTGGTGGGCCACTGCTGCTGCCTGGTCTATTCTACAGCAGTTTCTCTTGA
GTTTGACCTTTCCACGACTCCTTGAGGCAGTTGAGATGGAGGATGATGACTTCACGGCCTC
CCTGTCCAAGCAGAGCTGCATTACTGAACAAACCCAGTATTTCTTCGATAACGACAGTAAA
TCATTCAGTGGTGTATTAGACTGTGGAAACTGTTCCAGAATCTTTCATGGAGAAAAGCTTA
TGAACACCAACTTAATATTCATAATGGTTGAGAGCAAAGGGACATGTCCATGTGACACACG
ACTGCTCATACAAGCGGAGCAGACTTCTGACGGTCCAAATCCTTGTGACATGGTTAAGC

12 - human nucleotide sequence

ATGGCTGCTGGCTGCCTGCTGGCCTTGACTCTGACACTTTTCCAATCTTTGCTCATCGGCC
CCTCGTCGGAGGAGCCGTTCCCTTCGGCCGTCACTATCAAATCATGGGTGGATAAGATGCA
AGAAGACCTTGTCACACTGGCAAAAACAGCAAGTGGAGTCAATCAGCTTGTTGATATTTAT
GAGAAATATCAAGATTTGTATACTGTGGAACCAAATAATGCACGCCAGCTGGTAGAAATTG
CAGCCAGGGATATTGAGAAACTTCTGAGCAACAGATCTAAAGCCCTGGTGAGCCTGGCATT
GGAAGCGGAGAAAGTTCAAGCAGCTCACCAGTGGAGAGAAGATTTTGCAAGCAATGAAGTT
GTCTACTACAATGCAAAGGATGATCTCGATCCTGAGAAAAATGACAGTGAGCCAGGCAGCC
AGAGGATAAAACCTGTTTTCATTGAAGATGCTAATTTTGGACGACAAATATCTTATCAGCA
CGCAGCAGTCCATATTCCTACTGACATCTATGAGGGCTCAACAATTGTGTTAAATGAACTC
AACTGGACAAGTGCCTTAGATGAAGTTTTCAAAAAGAATCGCGAGGAAGACCCTTCATTAT
TGTGGCAGGTTTTTGGCAGTGCCACTGGCCTAGCTCGATATTATCCAGCTTCACCATGGGT
TGATAATAGTAGAACTCCAAATAAGATTGACCTTTATGATGTACGCAGAAGACCATGGTAC
ATCCAAGGAGCTGCATCTCCTAAAGACATGCTTATTCTGGTGGATGTGAGTGGAAGTGTTA

GTGGATTGACACTTAAACTGATCCGAACATCTGTCTCCGAAATGTTAGAAACCCTCTCAGA
TGATGATTTCGTGAATGTAGCTTCATTTAACAGCAATGCTCAGGATGTAAGCTGTTTTCAG
CACCTTGTCCAAGCAAATGTAAGAAATAAAAAAGTGTTGAAAGACGCGGTGAATAATATCA
CAGCCAAAGGAATTACAGATTATAAGAAGGGCTTTAGTTTTGCTTTTGAACAGCTGCTTAA
TTATAATGTTTCCAGAGCAAACTGCAATAAGATTATTATGCTATTCACGGATGGAGGAGAA
GAGAGAGCCCAGGAGATATTTAACAAATACAATAAAGATAAAAAAGTACGTGTATTCAGGT
TTTCAGTTGGTCAACACAATTATGAGAGAGGACCTATTCAGTGGATGGCCTGTGAAAACAA
AGGTTATTATTATGAAATTCCTTCCATTGGTGCAATAAGAATCAATACTCAGGAATATTTG
GATGTTTTGGGAAGACCAATGGTTTTAGCAGGAGACAAAGCTAAGCAAGTCCAATGGACAA
ATGTGTACCTGGATGCATTGGAACTGGGACTTGTCATTACTGGAACTCTTCCGGTCTTCAA
CATAACCGGCCAATTTGAAAATAAGACAAACTTAAAGAACCAGCTGATTCTTGGTGTGATG
GGAGTAGATGTGTCTTTGGAAGATATTAAAAGACTGACACCACGTTTTACACTGTGCCCCA
ATGGGTATTACTTTGCAATCGATCCTAATGGTTATGTTTTATTACATCCAAATCTTCAGCC
AAAGAACCCCAAATCTCAGGAGCCAGTAACATTGGATTTCCTTGATGCAGAGTTAGAGAAT
GATATTAAAGTGGAGATTCGAAATAAGATGATTGATGGGGAAAGTGGAGAAAAAACATTCA
GAACTCTGGTTAAATCTCAAGATGAGAGATATATTGACAAAGGAAACAGGACATACACATG
GACACCTGTCAATGGCACAGATTACAGTTTGGCCTTGGTATTACCAACCTACAGTTTTTAC
TATATAAAAGCCAAACTAGAAGAGACAATAACTCAGGCCAGATCAAAAAAGGGCAAAATGA
AGGATTCGGAAACCCTGAAGCCAGATAATTTTGAAGAATCTGGCTATACATTCATAGCACC
AAGAGATTACTGCAATGACCTGAAAATATCGGATAATAACACTGAATTTCTTTTAAATTTC
AACGAGTTTATTGATAGAAAAACTCCAAACAACCCATCATGTAACGCGGATTTGATTAATA
GAGTCTTGCTTGATGCAGGCTTTACAAATGAACTTGTCCAAAATTACTGGAGTAAGCAGAA
AAATATCAAGGGAGTGAAAGCACGATTTGTTGTGACTGATGGTGGGATTACCAGAGTTTAT
CCCAAAGAGGCTGGAGAAAATTGGCAAGAAAACCCAGAGACATATGAGGACAGCTTCTATA
AAAGGAGCCTAGATAATGATAACTATGTTTTCACTGCTCCCTACTTTAACAAAAGTGGACC
TGGTGCCTATGAATCGGGCATTATGGTAAGCAAAGCTGTAGAAATATATATTCAAGGGAAA
CTTCTTAAACCTGCAGTTGTTGGAATTAAAATTGATGTAAATTCCTGGATAGAGAATTTCA
CCAAAACCTCAATCAGAGATCCGTGTGCTGGTCCAGTTTGTGACTGCAAAAGAAACAGTGA
CGTAATGGATTGTGTGATTCTGGATGATGGTGGGTTTCTTCTGATGGCAAATCATGATGAT
TATACTAATCAGATTGGAAGATTTTTTGGAGAGATTGATCCCAGCTTGATGAGACACCTGG
TTAATATATCAGTTTATGCTTTTAACAAATCTTATGATTATCAGTCAGTATGTGAGCCCGG
TGCTGCACCAAAACAAGGAGCAGGACATCGCTCAGCATATGTGCCATCAGTAGCAGACATA

TTACAAATTGGCTGGTGGGCCACTGCTGCTGCCTGGTCTATTCTACAGCAGTTTCTCTTGA
GTTTGACCTTTCCACGACTCCTTGAGGCAGTTGAGATGGAGGATGATGACTTCACGGCCTC
CCTGTCCAAGCAGAGCTGCATTACTGAACAAACCCAGTATTTCTTCGATAACGACAGTAAA
TCATTCAGTGGTGTATTAGACTGTGGAAACTGTTCCAGAATCTTTCATGGAGAAAAGCTTA
TGAACACCAACTTAATATTCATAATGGTTGAGAGCAAAGGGACATGTCCATGTGACACACG
ACTGCTCATACAAGCGGAGCAGACTTCTGACGGTCCAAATCCTTGTGACATGGTTAAGCAA
CCTAGATACCGAAAAGGGCCTGATGTCTGCTTTGATAACAATGTCTTGGAGGATTATACTG
ACTGTGGTGGTGTTTCTG

13 - human amino acid sequence

MAAGCLLALTLTLFQSLLIGPSSEEPFPSAVTIKSWVDKMQEDLVTLAKTASGVNQLVDIY
EKYQDLYTVEPNNARQLVEIAARDIEKLLSNRSKALVSLALEAEKVQAAHQWREDFASNEV
VYYNAKDDLDPEKNDSEPGSQRIKPVFIEDANFGRQISYQHAAVHIPTDIYEGSTIVLNEL
NWTSALDEVFKKNREEDPSLLWQVFGSATGLARYYPASPWVDNSRTPNKIDLYDVRRRPWY
IQGAASPKDMLILVDVSGSVSGLTLKLIRTSVSEMLETLSDDDFVNVASFNSNAQDVSCFQ
HLVQANVRNKKVLKDAVNNITAKGITDYKKGFSFAFEQLLNYNVSRANCNKIIMLFTDGGE
ERAQEIFNKYNKDKKVRVFRFSVGQHNYERGPIQWMACENKGYYYEIPSIGAIRINTQEYL
DVLGRPMVLAGDKAKQVQWTNVYLDALELGLVITGTLPVFNITGQFENKTNLKNQLILGVM
GVDVSLEDIKRLTPRFTLCPNGYYFAIDPNGYVLLHPNLQPKNPKSQEPVTLDFLDAELEN
DIKVEIRNKMIDGESGEKTFRTLVKSQDERYIDKGNRTYTWTPVNGTDYSLALVLPTYSFY
YIKAKLEETITQARSKKGKMKDSETLKPDNFEESGYTFIAPRDYCNDLKISDNNTEFLLNF
NEFIDRKTPNNPSCNADLINRVLLDAGFTNELVQNYWSKQKNIKGVKARFVVTDGGITRVY
PKEAGENWQENPETYEDSFYKRSLDNDNYVFTAPYFNKSGPGAYESGIMVSKAVEIYIQGK
LLKPAVVGIKIDVNSWIENFTKTSIRDPCAGPVCDCKRNSDVMDCVILDDGGFLLMANHDD
YTNQIGRFFGEIDPSLMRHLVNISVYAFNKSYDYQSVCEPGAAPKQGAGHRSAYVPSVADI
LQIGWWATAAAWSILQQFLLSLTFPRLLEAVEMEDDDFTASLSKQSCITEQTQYFFDNDSK
SFSGVLDCGNCSRIFHGEKLMNTNLIFIMVESKGTCPCDTRL

14 - human amino acid sequence

MAAGCLLALTLTLFQSLLIGPSSEEPFPSAVTIKSWVDKMQEDLVTLAKTASGVNQLVDIY
EKYQDLYTVEPNNARQLVEIAARDIEKLLSNRSKALVSLALEAEKVQAAHQWREDFASNEV
VYYNAKDDLDPEKNDSEPGSQRIKPVFIEDANFGRQISYQHAAVHIPTDIYEGSTIVLNEL

NWTSALDEVFKKNREEDPSLLWQVFGSATGLARYYPASPWVDNSRTPNKIDLYDVRRRPWY
IQGAASPKDMLILVDVSGSVSGLTLKLIRTSVSEMLETLSDDDFVNVASFNSNAQDVSCFQ
HLVQANVRNKKVLKDAVNNITAKGITDYKKGFSFAFEQLLNYNVSRANCNKIIMLFTDGGE
ERAQEIFNKYNKDKKVRVFRFSVGQHNYERGPIQWMACENKGYYYEIPSIGAIRINTQEYL
DVLGRPMVLAGDKAKQVQWTNVYLDALELGLVITGTLPVFNITGQFENKTNLKNQLILGVM
GVDVSLEDIKRLTPRFTLCPNGYYFAIDPNGYVLLHPNLQPKNPKSQEPVTLDFLDAELEN
DIKVEIRNKMIDGESGEKTFRTLVKSQDERYIDKGNRTYTWTPVNGTDYSLALVLPTYSFY
YIKAKLEETITQARSKKGKMKDSETLKPDNFEESGYTFIAPRDYCNDLKISDNNTEFLLNF
NEFIDRKTPNNPSCNADLINRVLLDAGFTNELVQNYWSKQKNIKGVKARFVVTDGGITRVY
PKEAGENWQENPETYEDSFYKRSLDNDNYVFTAPYFNKSGPGAYESGIMVSKAVEIYIQGK
LLKPAVVGIKIDVNSWIENFTKTSIRDPCAGPVCDCKRNSDVMDCVILDDGGFLLMANHDD
YTNQIGRFFGEIDPSLMRHLVNISVYAFNKSYDYQSVCEPGAAPKQGAGHRSAYVPSVADI
LQIGWWATAAAWSILQQFLLSLTFPRLLEAVEMEDDDFTASLSKQSCITEQTQYFFDNDSK
SFSGVLDCGNCSRIFHGEKLMNTNLIFIMVESKGTCPCDTRLLIQAEQTSDGPNPCDMVK

15 - human amino acid sequence

MAAGCLLALTLTLFQSLLIGPSSEEPFPSAVTIKSWVDKMQEDLVTLAKTASGVNQLVDIY
EKYQDLYTVEPNNARQLVEIAARDIEKLLSNRSKALVSLALEAEKVQAAHQWREDFASNEV
VYYNAKDDLDPEKNDSEPGSQRIKPVFIEDANFGRQISYQHAAVHIPTDIYEGSTIVLNEL
NWTSALDEVFKKNREEDPSLLWQVFGSATGLARYYPASPWVDNSRTPNKIDLYDVRRRPWY
IQGAASPKDMLILVDVSGSVSGLTLKLIRTSVSEMLETLSDDDFVNVASFNSNAQDVSCFQ
HLVQANVRNKKVLKDAVNNITAKGITDYKKGFSFAFEQLLNYNVSRANCNKIIMLFTDGGE
ERAQEIFNKYNKDKKVRVFRFSVGQHNYERGPIQWMACENKGYYYEIPSIGAIRINTQEYL
DVLGRPMVLAGDKAKQVQWTNVYLDALELGLVITGTLPVFNITGQFENKTNLKNQLILGVM
GVDVSLEDIKRLTPRFTLCPNGYYFAIDPNGYVLLHPNLQPKNPKSQEPVTLDFLDAELEN
DIKVEIRNKMIDGESGEKTFRTLVKSQDERYIDKGNRTYTWTPVNGTDYSLALVLPTYSFY
YIKAKLEETITQARSKKGKMKDSETLKPDNFEESGYTFIAPRDYCNDLKISDNNTEFLLNF
NEFIDRKTPNNPSCNADLINRVLLDAGFTNELVQNYWSKQKNIKGVKARFVVTDGGITRVY
PKEAGENWQENPETYEDSFYKRSLDNDNYVFTAPYFNKSGPGAYESGIMVSKAVEIYIQGK
LLKPAVVGIKIDVNSWIENFTKTSIRDPCAGPVCDCKRNSDVMDCVILDDGGFLLMANHDD
YTNQIGRFFGEIDPSLMRHLVNISVYAFNKSYDYQSVCEPGAAPKQGAGHRSAYVPSVADI
LQIGWWATAAAWSILQQFLLSLTFPRLLEAVEMEDDDFTASLSKQSCITEQTQYFFDNDSK

SFSGVLDCGNCSRIFHGEKLMNTNLIFIMVESKGTCPCDTRLLIQAEQTSDGPNPCDMVKQ
PRYRKGPDVCFDNNVLEDYTDCGGVS

16 - human alpha2 delta-1 amino acid sequence

MAAGCLLALTLTLFQSLLIGPSSEEPFPSAVTIKSWVDKMQEDLVTLAKTASGVNQLVDIY
EKYQDLYTVEPNNARQLVEIAARDIEKLLSNRSKALVSLALEAEKVQAAHQWREDFASNEV
VYYNAKDDLDPEKNDSEPGSQRIKPVFIEDANFGRQISYQHAAVHIPTDIYEGSTIVLNEL
NWTSALDEVFKKNREEDPSLLWQVFGSATGLARYYPASPWVDNSRTPNKIDLYDVRRRPWY
IQGAASPKDMLILVDVSGSVSGLTLKLIRTSVSEMLETLSDDDFVNVASFNSNAQDVSCFQ
HLVQANVRNKKVLKDAVNNITAKGITDYKKGFSFAFEQLLNYNVSRANCNKIIMLFTDGGE
ERAQEIFNKYNKDKKVRVFRFSVGQHNYERGPIQWMACENKGYYYEIPSIGAIRINTQEYL
DVLGRPMVLAGDKAKQVQWTNVYLDALELGLVITGTLPVFNITGQFENKTNLKNQLILGVM
GVDVSLEDIKRLTPRFTLCPNGYYFAIDPNGYVLLHPNLQPKNPKSQEPVTLDFLDAELEN
DIKVEIRNKMIDGESGEKTFRTLVKSQDERYIDKGNRTYTWTPVNGTDYSLALVLPTYSFY
YIKAKLEETITQARSKKGKMKDSETLKPDNFEESGYTFIAPRDYCNDLKISDNNTEFLLNF
NEFIDRKTPNNPSCNADLINRVLLDAGFTNELVQNYWSKQKNIKGVKARFVVTDGGITRVY
PKEAGENWQENPETYEDSFYKRSLDNDNYVFTAPYFNKSGPGAYESGIMVSKAVEIYIQGK
LLKPAVVGIKIDVNSWIENFTKTSIRDPCAGPVCDCKRNSDVMDCVILDDGGFLLMANHDD
YTNQIGRFFGEIDPSLMRHLVNISVYAFNKSYDYQSVCEPGAAPKQGAGHRSAYVPSVADI
LQIGWWATAAAWSILQQFLLSLTFPRLLEAVEMEDDDFTASLSKQSCITEQTQYFFDNDSK
SFSGVLDCGNCSRIFHGEKLMNTNLIFIMVESKGTCPCDTRLLIQAEQTSDGPNPCDMVKQ
PRYRKGPDVCFDNNVLEDYTDCGGVSGLNPSLWYIIGIQFLLLWLVSGSTHRLL

17 - human alpha2 delta-1 nucleic acid sequence

GCGGGGGAGGGGGCATTGATCTTCGATCGCGAAGATGGCTGCTGGCTGCCTGCTGGCCTTG
ACTCTGACACTTTTCCAATCTTTGCTCATCGGCCCCTCGTCGGAGGAGCCGTTCCCTTCGG
CCGTCACTATCAAATCATGGGTGGATAAGATGCAAGAAGACCTTGTCACACTGGCAAAAAC
AGCAAGTGGAGTCAATCAGCTTGTTGATATTTATGAGAAATATCAAGATTTGTATACTGTG
GAACCAAATAATGCACGCCAGCTGGTAGAAATTGCAGCCAGGGATATTGAGAAACTTCTGA
GCAACAGATCTAAAGCCCTGGTGAGCCTGGCATTGGAAGCGGAGAAAGTTCAAGCAGCTCA
CCAGTGGAGAGAAGATTTTGCAAGCAATGAAGTTGTCTACTACAATGCAAAGGATGATCTC
GATCCTGAGAAAAATGACAGTGAGCCAGGCAGCCAGAGGATAAAACCTGTTTTCATTGAAG

ATGCTAATTTTGGACGACAAATATCTTATCAGCACGCAGCAGTCCATATTCCTACTGACAT
CTATGAGGGCTCAACAATTGTGTTAAATGAACTCAACTGGACAAGTGCCTTAGATGAAGTT
TTCAAAAAGAATCGCGAGGAAGACCCTTCATTATTGTGGCAGGTTTTTGGCAGTGCCACTG
GCCTAGCTCGATATTATCCAGCTTCACCATGGGTTGATAATAGTAGAACTCCAAATAAGAT
TGACCTTTATGATGTACGCAGAAGACCATGGTACATCCAAGGAGCTGCATCTCCTAAAGAC
ATGCTTATTCTGGTGGATGTGAGTGGAAGTGTTAGTGGATTGACACTTAAACTGATCCGAA
CATCTGTCTCCGAAATGTTAGAAACCCTCTCAGATGATGATTTCGTGAATGTAGCTTCATT
TAACAGCAATGCTCAGGATGTAAGCTGTTTTCAGCACCTTGTCCAAGCAAATGTAAGAAAT
AAAAAAGTGTTGAAAGACGCGGTGAATAATATCACAGCCAAAGGAATTACAGATTATAAGA
AGGGCTTTAGTTTTGCTTTTGAACAGCTGCTTAATTATAATGTTTCCAGAGCAAACTGCAA
TAAGATTATTATGCTATTCACGGATGGAGGAGAAGAGAGAGCCCAGGAGATATTTAACAAA
TACAATAAAGATAAAAAAGTACGTGTATTCAGGTTTTCAGTTGGTCAACACAATTATGAGA
GAGGACCTATTCAGTGGATGGCCTGTGAAAACAAAGGTTATTATTATGAAATTCCTTCCAT
TGGTGCAATAAGAATCAATACTCAGGAATATTTGGATGTTTTGGGAAGACCAATGGTTTTA
GCAGGAGACAAAGCTAAGCAAGTCCAATGGACAAATGTGTACCTGGATGCATTGGAACTGG
GACTTGTCATTACTGGAACTCTTCCGGTCTTCAACATAACCGGCCAATTTGAAAATAAGAC
AAACTTAAAGAACCAGCTGATTCTTGGTGTGATGGGAGTAGATGTGTCTTTGGAAGATATT
AAAAGACTGACACCACGTTTTACACTGTGCCCCAATGGGTATTACTTTGCAATCGATCCTA
ATGGTTATGTTTTATTACATCCAAATCTTCAGCCAAAGAACCCCAAATCTCAGGAGCCAGT
AACATTGGATTTCCTTGATGCAGAGTTAGAGAATGATATTAAAGTGGAGATTCGAAATAAG
ATGATTGATGGGGAAAGTGGAGAAAAAACATTCAGAACTCTGGTTAAATCTCAAGATGAGA
GATATATTGACAAAGGAAACAGGACATACACATGGACACCTGTCAATGGCACAGATTACAG
TTTGGCCTTGGTATTACCAACCTACAGTTTTTACTATATAAAAGCCAAACTAGAAGAGACA
ATAACTCAGGCCAGATCAAAAAAGGGCAAAATGAAGGATTCGGAAACCCTGAAGCCAGATA
ATTTTGAAGAATCTGGCTATACATTCATAGCACCAAGAGATTACTGCAATGACCTGAAAAT
ATCGGATAATAACACTGAATTTCTTTTAAATTTCAACGAGTTTATTGATAGAAAAACTCCA
AACAACCCATCATGTAACGCGGATTTGATTAATAGAGTCTTGCTTGATGCAGGCTTTACAA
ATGAACTTGTCCAAAATTACTGGAGTAAGCAGAAAAATATCAAGGGAGTGAAAGCACGATT
TGTTGTGACTGATGGTGGGATTACCAGAGTTTATCCCAAAGAGGCTGGAGAAAATTGGCAA
GAAAACCCAGAGACATATGAGGACAGCTTCTATAAAAGGAGCCTAGATAATGATAACTATG
TTTTCACTGCTCCCTACTTTAACAAAAGTGGACCTGGTGCCTATGAATCGGGCATTATGGT
AAGCAAAGCTGTAGAAATATATATTCAAGGGAAACTTCTTAAACCTGCAGTTGTTGGAATT

AAAATTGATGTAAATTCCTGGATAGAGAATTTCACCAAAACCTCAATCAGAGATCCGTGTG
CTGGTCCAGTTTGTGACTGCAAAAGAAACAGTGACGTAATGGATTGTGTGATTCTGGATGA
TGGTGGGTTTCTTCTGATGGCAAATCATGATGATTATACTAATCAGATTGGAAGATTTTTT
GGAGAGATTGATCCCAGCTTGATGAGACACCTGGTTAATATATCAGTTTATGCTTTTAACA
AATCTTATGATTATCAGTCAGTATGTGAGCCCGGTGCTGCACCAAAACAAGGAGCAGGACA
TCGCTCAGCATATGTGCCATCAGTAGCAGACATATTACAAATTGGCTGGTGGGCCACTGCT
GCTGCCTGGTCTATTCTACAGCAGTTTCTCTTGAGTTTGACCTTTCCACGACTCCTTGAGG
CAGTTGAGATGGAGGATGATGACTTCACGGCCTCCCTGTCCAAGCAGAGCTGCATTACTGA
ACAAACCCAGTATTTCTTCGATAACGACAGTAAATCATTCAGTGGTGTATTAGACTGTGGA
AACTGTTCCAGAATCTTTCATGGAGAAAAGCTTATGAACACCAACTTAATATTCATAATGG
TTGAGAGCAAAGGGACATGTCCATGTGACACACGACTGCTCATACAAGCGGAGCAGACTTC
TGACGGTCCAAATCCTTGTGACATGGTTAAGCAACCTAGATACCGAAAAGGGCCTGATGTC
TGCTTTGATAACAATGTCTTGGAGGATTATACTGACTGTGGTGGTGTTTCTGGATTAAATC
CCTCCCTGTGGTATATCATTGGAATCCAGTTTCTACTACTTTGGCTGGTATCTGGCAGCAC
ACACCGGCTGTTATGACCTTCTAAAAACCAAATCTGCATAGTTAAACTCCAGACCCTGCCA
AAACATGAGCCCTGCCCTCAATTACAGTAACGTAGGGTCAGCTATAAAATCAGACAAACAT
TAGCTGGGCCTGTTCCATGGCATAACACTAAGGCGCAGACTCCTAAGGCACCCACTGGCTG
CATGTCAGGGTGTCAGATCCTTAAACGTGTGTGAATGCTGCATCATCTATGTGTAACATCA
AAGCAAAATCCTATACGTGTCCTCTATTGGAAAATTTGGGCGTTTGTTGTTGCATTGTTGG
T

18 - nucleotide sequence

GGGGATTGATCTTCGATCGCG

19 - nucleotide sequence

CTGAGATTTGGGGTTCTTTGG

20 - nucleotide sequence

TCGCCACCATGGCTGCTGGCTGCCTGCTG

21 - nucleotide sequence

TCGGAATTCCTCAGTGATGGTGATGGTGATGAGAAACACCACCACAGTCGGT